MOVING AMERICA FORWARD: LESSONS FROM THE EISENHOWER INTERSTATE SYSTEM APPLIED TO A NATIONAL INFRASTRUCTURE BANK

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MOVING AMERICA FORWARD: LESSONS FROM THE EISENHOWER INTERSTATE SYSTEM APPLIED TO A NATIONAL INFRASTRUCTURE BANK

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To Mom and Dad, love you.

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I would like to thank the Georgia Tech community that has developed me as a scholar, leader, and individual for the past six years. Because of everything I've learned since coming here I feel confident and capable as I begin the next phase of my life.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ABBREVIATIONS

AAA	American Automobile Association
ASCE	American Society of Civil Engineers
BPR	Bureau of Public Roads
DOT	Department of Transportation
EIB	European Investment Bank
EU	European Union
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
HTF	Highway Trust Fund
MAP-21	Moving Ahead for Progress in the 21st Century
MMC	Multihazard Mitigation Council
NIB	National Infrastructure Bank
ORI	Office of Road Inquiry
RFD	Rural Free Delivery
SAFETEA-LU	Safe Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SIB	State Infrastructure Bank
SRF	State Revolving Funds
TEA-21	Transportation Equity Act for the 21st Century
TIFIA	Transportation Infrastructure Finance Innovation Act

SUMMARY

The objective of this paper is to outline steps that the Obama Administration could take to help pass legislation for an innovative funding mechanism known as a National Infrastructure Bank (NIB). The recommended steps are based on a historical account of the leadership provided by Presidents Roosevelt and Eisenhower when passing the original bills that authorized the Interstate system. Key policy recommendations include: framing the need for an NIB as a means of economic growth and natural disaster resilience, building strategic stakeholder support through education, and engaging and compromising with Congress while developing the NIB proposal. If successfully applied, these lessons can help enable the creation of an NIB that would increase infrastructure investment by billions of dollars while rehabilitating the struggling economy and transportation network.

CHAPTER 1

INTRODUCTION

It has been rumored that the United States Interstate Highway System began with President Roosevelt drawing three lines North to South and three lines East to West on a map of the U.S. and asking the Bureau of Public Roads to make it a reality [1]. The validity of this "simple" beginning of the Interstate Highway System has not been confirmed, but it is clear that the Interstate system that has connected our nation for more than 50 years has not come without hard work, diligent planning, and strong political leadership. President Dwight D. Eisenhower captured the magnitude of this undertaking when estimating, "The amount of concrete poured to form these roadways would build eighty Hoover Dams or six sidewalks to the moon. To build them, bulldozers and shovels would move enough dirt and rock to bury all of Connecticut two feet deep" [2]. The construction of a national highway system has provided a foundation upon which five decades of economic growth and prosperity have rested.

Despite the solid foundation laid by President Eisenhower, lack of adequate investment and maintenance has left the Nation's transportation system in a less than impressive global standing. According to the World Economic Forum, the U.S. infrastructure network fell from being ranked ninth in 2008 to 25th in 2012 [3]. Continued declines in global competitiveness are expected as infrastructure spending continues to fall short of national needs as physical asset deterioration accelerates. National associations, like the American Society of Civil Engineers (ASCE), share the sentiment of declining infrastructure quality with associated declines in economic competiveness.

ASCE completed a comprehensive review of the U.S. infrastructure system looking at each category of infrastructure with three assets falling directly in the realm of surface transportation: bridges, roads, and transit. These three assets were estimated to have a $1.2 trillion spending shortfall over the next five years and given letter grades of C, D-, and D, respectively [4]. The World Economic Forum rankings and ASCE grades paint a clear picture of the current status and impending direction of the U.S. transportation system if serious measures are taken to redirect the existing path.

The factors leading the U.S. transportation system to its current state are many, but an undeniable central reason is lack of investment. Each year America invests two percent of its GDP on infrastructure, a value roughly half the percentage of 50 years ago. Furthermore, this proportion is dwarfed by European countries, which invest on average five percent of their GDP each year in infrastructure and China with an even greater nine percent [5]. Though statistical indicators point to the need for increased investment in infrastructure, the current political and economic climate of the United States has made it difficult to pass decisive legislation for this purpose. However, there is a promising and novel proposal that has been put forth to create a National Infrastructure Bank (NIB) to assist in providing more funding for infrastructure projects through long-term loan mechanisms that can be leveraged with private sector investment.

This paper applies a historical lens to the Presidential leadership employed when developing the Eisenhower Highway System to find lessons that can be applied to creating a National Infrastructure Bank. First, the history of roads in America will be reviewed concisely to provide insight on the political environment that Presidents Roosevelt and Eisenhower maneuvered in while advocating for the highway system. The

focus will then fast forward to more recent years to identify causes of the diminished quality of the U.S. transportation network. Finally, the concept of a NIB will be presented and policy lessons from President Roosevelt and Eisenhower will be applied to outline steps that President Obama could take to bring an NIB to fruition.

CHAPTER 2

THE EARLY STEPS IN CONNECTING A NATION

Though President Dwight Eisenhower is credited with signing the 1956 Federal-Aid Highway Act that catalyzed the building of over 40,000 miles of U.S. Interstate highway, the process of building a system to carry goods and people across our vast country began decades before. The discussion on the importance of roads in America and who should bear the costs for building and maintaining them has been debated since the 18th century and the answer to this disputed question has shifted a number of times between the government and the private sector. Understanding this history and realizing that multiple types of financing mechanisms for transportation infrastructure have prevailed over time is critical for realizing the political atmosphere and contrasting ideology present during the Roosevelt and Eisenhower administrations.

Private Roads in the Beginning

The first "organized" American road occurred in 1795 with the chartering of the Fairfax and Loudoun Turnpike Road Company in the state of Virginia [6]. Roads during this period were built for transportation like the roads of present, but were constructed using very different methods and for the purpose of horse carriage. Each traveler paid a user-fee of just a few cents to traverse the roads. The company that constructed the road would collect tolls to recoup their initial construction costs and profit. States provided subsidies through tax exemptions to companies constructing roads due to the public good, but all the capital and investment risk of building these roads fell on the private sector. Typical return on investment for companies constructing successful road projects during

this period hovered between a modest 12-15 percent. However, few of the toll roads constructed made consistent profits to yield a positive ROI making them risky and often poor investments [7]. This structure of the private sector financing the capital and bearing the risk would be the conventional means of road construction for decades to follow.

Public Roads Deemed Unconstitutional

At the turn of the 19th century, the U.S. began expand and looked to grow the nation's population into new frontiers. During this period, a new ideological approach to road financing began that continues to shape road financing even today. In 1803, the federal government became involved with financing the country's transportation system. In an effort to motivate citizens to leave the eastern cities of the United States, Congress established a dedicated funding stream for road construction in the state of Ohio. Through this legislation, two percent of the revenue from the sales of public lands in the newly founded state of Ohio would be dedicated to the building of public roads. Congress believed that the construction of non-toll roads across the state would spur further development and bring new settlers. In 1806, Congress went further and passed legislation that would allocate $30,000 to the construction of a "National Road" to run from Maryland to the Ohio River [6]. Having already dedicated funding to transportation in a single state and allocating funds for an individual project, the question rose in 1807 as to whether the government should take the next step and invest in financing roads and canals to connect the nation. This culminated in a report that was submitted to Congress outlining a series of road, canal, and river improvements that could be executed across the country. Congress rejected this report, and more broadly the concept of funding transportation infrastructure, on "constitutional, budgetary, and sectional benefit

grounds." This sentiment was shared by Presidents Madison, Monroe, Jackson, Tyler, Polk, Pierce, and Buchanan, who all vetoed transportation bills funded by the federal government deeming the act unconstitutional [8]. With this precedent set and the rise of the railroad for transport, road construction would see a period of slow growth until the turn of the century.

The Good Roads Movement

The year 1890 would mark a renewed spirit of road building in America with the Good Roads Movement. This movement would be monumental in the establishment of the nation's first federal road agency in 1893 – the Office of Road Inquiry (ORI) [9]. With the ORI in place and momentum building through the movement, the start of the 20th century was prime for the advancement of roads in America. This time coincided with another federal innovation known as the Rural Free Delivery (RFD), the expansion of the postal delivery system to rural areas that were not previously served. The only caveat to this service was homes were required to have roads that could be traveled by the postal delivery personnel. The opportunity to receive mail at their homes was enough to bring the support of many rural Americans. With widespread public support, Congress passed legislation that would provide $20 million for roads to be used for mail delivery. Disbursed on the county level, this program allowed for up to $500,000 in federal funds for counties that were willing to match the financing. However, the program quickly became overly complicated, as the federal government was required to work directly with the more than 1,000 rural counties falling under the program's jurisdiction [9]. Despite complications, this initiative overcame the previous mindset that federal funding for

roads was unconstitutional and set the precedent of 50-50 matching federal funds for public roads.

Precedent for Federal Road Funding

The next major step in transportation policy came in 1916. The Federal Highway Act of 1916 was passed during a time period of huge growth in car ownership. The Act provided $75 million over five years and continued the legacy of a 50-50 federal match [9]. Utilizing lessons from the Rural Free Delivery program, all disbursements were done at the state level allowing state agencies to make funding decisions and making the process less complicated at the federal level. Though the Act applied lessons learned from the past, it would be deemed a failure since little road building would come out of the legislation due to the start of World War I.

One final critical moment in U.S. transportation history came prior to President Roosevelt taking office. Taxation would be the focus and it would come in the form of the Federal Revenue Act of 1932. This Act marked the first time that a federal gas tax would be enacted allowing for one cent per gallon to be collected by the government. After over a century of ideological shifts on how roads should be financed, the 1932 Act would finally lay a foundation for the future. Though the revenue from this tax was not earmarked for transportation, it opened the door for the taxation of fuel – a tradition that continues today. The creation of this tax and the use of federal funds for roads was not a proposition that was warmly accepted by everyone. Many people did not agree with taxing gasoline and companies selling the product worried that the tax would cut into their own profit by reducing demand by raising the price. Figure 1 shows a political cartoon that was created alluding to the taxation of gasoline and the concerns that the gas

tax revenue was greater than the amount that would be put towards the construction of roads. This was concern was valid. However, since gas tax funds were not earmarked into a separate account specifically for transportation, funds from tax revenue were intended for the general fund as a revenue raising measure.

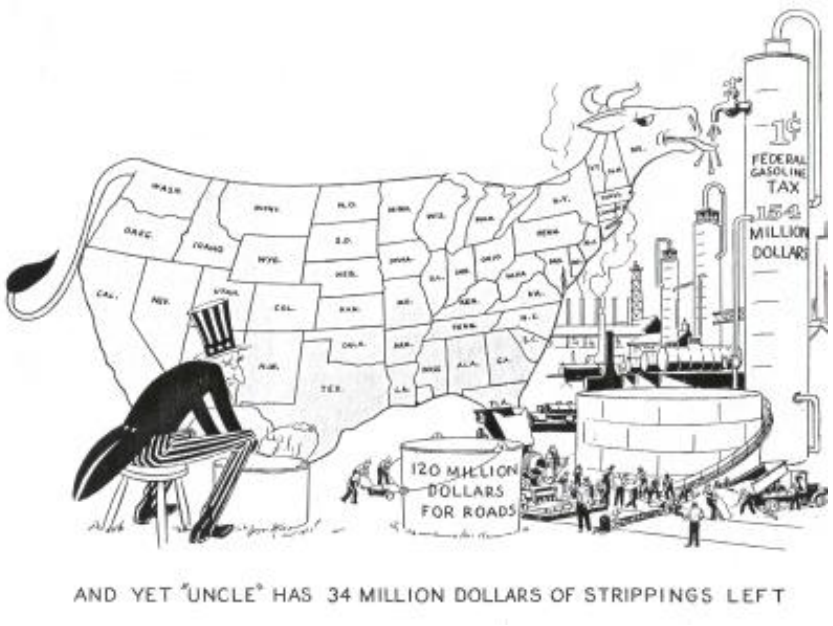


Figure 1 – Political cartoon depicting sentiments toward the use of the 1 cent gas tax [1]

CHAPTER 3

PROGRESS UNDER PRESIDENT ROOSEVELT

The present-day Interstate highway system began to take shape under the Roosevelt administration. President Roosevelt took office during a tumultuous economic time period for the country. Faced with the Great Depression and a country with record levels of unemployment, President Roosevelt put forth his New Deal program to rehabilitate a hurting nation. During his tenure, Roosevelt passed four major highway bills that would progress highway investment as a means of job creation and economic growth. Although the legislation for the Interstate system was executed under Eisenhower, it can be argued that Roosevelt planned it.

Critical Early Legislation

Roosevelt's first piece of transportation legislation was the Federal Highway Act of 1934 also known as the Hayden-Cartwright Act of 1934. Highway planning was birthed through this Act because it allowed for up to 1.5 percent of federal matching funds for highway surveys, plans, and engineering investigation [10]. The process of creating a highway inventory and planning future projects became a major undertaking and steady source of employment. It was said that during this time for every one person employed in roadwork there were two more employed in manufacturing and transportation of road materials and equipment [2]. Prior to this act, all costs related to planning roadway projects had to be paid by the state. During this period of financial struggle for the nation, and especially at the state level, this provision helped tremendously and allowed states to put a greater focus on designing their transportation

future. The Hayden-Cartwright Act of 1934 can be seen in the present day with federal funding provided for studies to plan future projects and a large amount of resources being provided for highway and transportation research. The Transportation Research Board, the major public transportation research entity, provides millions in federally funded grants each year for research projects throughout the country that focus on enabling innovation in the transportation sector.

Hayden-Cartwright is also noteworthy for its emergency road funding, urban road funding, and earmarking provisions. The act provided 100 percent funding for the repair of Federal Aid highway system roads in the event of a natural disaster. This act marked the first time legislation specifically focused on natural disasters' impact on roads and provided federal level funding for any damages. Additionally, Hayden-Cartwright allowed federal funding to go towards road construction through urban areas. The debate on whether the government should fund roads through urban cities was settled for the short-term through this act. Roads through urban areas were more expensive and had far less impact on interstate travel than rural roads. Until this moment, federally funded road construction had been primarily focused on rural roads. The inclusion of urban areas for federal funding ensured the utility of cars and freeways for all Americans. Though the debate on whether cities should be included in the federal highway system would continue for decades to follow, the ultimate decision aligned with the direction of Hayden-Cartwright. Finally, the 1934 Act required states to dedicate state gas tax revenue to the purpose of road building. Prior to this law, states were able to use gas tax as general revenue to put toward funding initiatives of their choice. Passing Hayden-Cartwright ensured that states would be dedicating a substantial amount of funds to roads

each year. However, the law was quite contradictory to federal taxation practices because federal gas tax revenue was not dedicated strictly to road construction at the time. Instead, gas tax was deposited into the general fund and was not directly connected to federal highway expenditures. It would take18 years for the federal government to build a funding structure that would require investment of gas tax dollars to transportation.

The second bill passed under Roosevelt was the Federal Highway Act of 1938, which laid the foundation for the Interstate system passed under Eisenhower. As a part of the 1938 legislation, the Bureau of Public Roads (BPR), formally known as the ORI, began a study on six superhighways that would traverse the country [2]. These six highways would be funded through toll collection and would consist of three highways running North to South and three East to West. In 1939, the study culminated in a *Toll Roads versus Free Roads* report that made critical findings available. The report described a high performance system that would consist of one percent of the nation's total roads but carry 20 percent of the traffic. These numbers were spot on for the final system built decades later with 1.2 percent of the nation's roads carrying 21 percent of the traffic. Furthermore, the report investigated five system alternatives arriving at an optimal design with 33,920 miles of highway connecting all American cities containing populations over 300,000. Finally and most critically, the report concluded that the highway system could not be self-sustaining if financed via tolls. Less than 200 miles of the system were estimated to generate enough tolls to cover their own construction costs and only $1/5^{th}$ of the roads in the system could repay just half their own costs [2].

Planning the Nation's Highway Future

The plans from the 1939 *Toll Roads versus Free Roads* report laid untouched for two years until 1941 when Roosevelt appointed an Interregional Highway Committee to resume progress [2]. The committee worked on planning the nation's highway system, but the pending war in Europe halted any dedicated funds toward executing any plans. Growing concerns of war culminated at the end of 1941 with the Defense Highway Act of 1941. This Act authorized 100 percent of federal-aid for right-of-way costs for roads accessing plants and 75 percent funding for acquiring lands for a strategic defense network [11]. Just three weeks after this Act was passed, Pearl Harbor was attacked and the United States entered World War II shifting all resources to the war effort.

Roosevelt's final transportation legislation was the Federal-Aid Highway Act of 1944. The Act allocated $1.5 billion over a three-year period after the conclusion of the war effort. It was Roosevelt's objective to ensure that funds would be present for states to proactively utilize as soon as the war effort ended. Roosevelt stated that, "Adequate facilities for highway communication will be essential in the future as a part of an expanding, prosperous economy that will insure jobs. They will be essential also to the national defense, as well as to the safe and efficient transportation service which belong to America's way of living" [11]. After realizing that tolls would not work, Roosevelt's mechanism for funding these interstate facilities was known as excessive condemnation. Through this method, the government would acquire right-of-way far larger than the highway limits at a low cost. After the construction of the highways the government would be able to sell the lands and capture the property value appreciation from the newly constructed infrastructure.

During Roosevelt's presidency there was not much physical progress made in the construction of the Interstate system but his policy and planning contributions were invaluable. Most of the system that would be executed more than a decade later was planned in the Bureau of Public Roads during Roosevelt's tenure, the economic justification of federally funded roads versus toll roads was clarified, and for the first time the importance of a national highway system for defense purposes was recognized at the presidential level and used to justify transportation policy.

CHAPTER 4

EISENHOWER SEALS THE DEAL

As with Roosevelt, President Eisenhower began his administration at a pivotal time for the nation. The first year of his presidency, 1953, marked the close of the Korean War and the second time in ten years that the nation had come home from war. With no war effort to boost employment and foster economic activity, Eisenhower began to develop a plan that would concentrate on domestic growth and defense after many years of investing money and energy into wars abroad.

Eisenhower's experience as a general during World War II exposed him to Germany and its autobahn highway system. The German autobahn impressed the General in both its utility and durability making him realize, "the wisdom of broader ribbons across the land. Bombing can immobilize a rail system quite easily, but the autobahn was much harder to destroy" [9]. This experience was a stark contrast to his 1919 expedition across America while a Lieutenant Colonel in the army. This trip took over two months to travel 3,250 miles with an average travel speed of just five miles per hour [9]. After the impression left on him by the German highways and the sour taste from his journey across the U.S., Eisenhower wasted no time in pushing for the construction of a national highway system to connect the nation.

A Short-term Highway Solution

The Federal Highway Act of 1954 was the first measure taken by Eisenhower to accelerate the nation's highway program. This bill appropriated $175 million per year to highway construction for the years 1956 and 1957 and dwarfed the $25 million allocated

in the preceding 1952 Act. Eisenhower's 1954 Act also increased the share of costs covered by the federal government from 50 percent to 60 percent [2]. However, increasing appropriations to the highway system was not Eisenhower's main objective. He was more focused on an overhaul of the program and the construction of the largest public works project in the history of the country.

Passing the Federal Interstate Highway Act of 1956

President Eisenhower's first public step in introducing his vision and garnering support for the Interstate highway system was taken on July 12, 1954. This step came in the form of an address to the Governors' Conference at Lake George. President Eisenhower was unable to be present due to the death of his sister-in-law, so Vice President Richard Nixon delivered the speech Eisenhower prepared [12]. Governors from each state attended this conference – an audience deemed critical by Eisenhower to have in support of his venture. The economic advantages that an Interstate system would bring to each state were used to gain the praises of the Governors and Eisenhower challenged those backing the concept to develop ideas that could make the plan a reality. To focus on internal matters concerning the highway system, Eisenhower appointed General Lucius Clay to lead an advisory committee on the national highway system, coined "The Clay Committee." By the end of 1954, the Clay Committee had developed a 10-year $27 billion plan for the creation of a national Interstate highway system that would have the federal government covering 90 percent of the costs [1].

At the start of 1955 the Clay Committee brought forth their proposal for the highway system to Congress. It was also during this year that the name was officially changed to the National Highway and Defense System to address the multiple purposes

of this undertaking and corral the support of southern Congressmen that were more likely to support military related spending. This designation made it clear that the rationale of creating this system was more robust than just interstate commerce and travel. Though the plan garnered bipartisan support, financing was a major issue of contention. The Clay Committee proposed a 32-year bond-financing program that would be funded through a 2-cent gas tax. A Federal Highway Corporation would be developed to take on the liability of the bonds and operate as its own entity. This financing alternative met wide opposition due to the following constraints of the plan: (1) over the 32-year bond repayment period the debt would accrue $11.5 billion in interest – equivalent to 55 percent of the bond, (2) Congress would not have appropriation control over the funds since they would be handled by the Federal Highway Corporation, (3) the federal gas tax would be controlled at 2-cents for the next 32 years meaning that this Congress would be obligating subsequent congresses to upholding this tax [1]. These objections caused the bill to not be passed in 1955 with a vote in the House of 193-221 and Senate of 31-60, despite President Eisenhower's strong support [2].

The failing of the Clay Committee bill would not be the end of the highway discussion, as two more bills would be developed by members of Congress: Senator Albert Gore and Representative George Fallon. Gore's bill did not directly address the issue of financing while Fallon's bill stated that the financing source would be an increased gas tax that could cover the fees as people used the system. Support for these bills and even the Clay bill was present in Congress but much external opposition was faced from lobbying organizations American Automobile Association (AAA), state highway officials, tire companies, some state governors, and the petroleum industry.

These groups believed the increased gas tax would have a negative effect on their interests. It was said that, "From the day of introduction of [the Fallon bill,] there occurred one of the most intense pressure campaigns observed on Capitol Hill for many years… This campaign moved with increasing intensity until the revised tax bill was defeated on the floor of the House" [2]. The year 1955 came to a close with three bills proposed and all three left on the table. President Eisenhower wrote a letter to Congress stating that he was disappointed that no legislation could be passed in that year's session and urged them to yield to the financing method from the Fallon proposal. This letter stated four major reasons why it was necessary to pass this legislation: (1) 36,000 annual deaths on the system each year that equate to $4.3 billion in economic loses, (2) an additional $5 billion in economic losses from the nation because of a poor road system, (3) the criticality of roads in case of a nuclear attack, and (4) that congestion was bad right now but was only a taste of what would be seen in the years to follow if nothing was done [13]. Eisenhower's willingness to compromise on the financing aspect of the bill was shown through this letter since he was in favor of self-financing toll roads not user-taxes. The passing of this bill was imperative to Eisenhower and the funding source was something that could be solidified once the program was approved.

At the start of 1956, Congress returned to work on a bill to construct and finance the National Interstate Highway and Defense System. It would be Fallon again who would develop a solution. Fallon's bill put forth a 13-year $24.8 billion plan encompassing 41,000 miles of interstate highways. This plan would be funded through user-fees from a gas tax increase to three cents and rubber tax that would both be earmarked for the transportation [13]. After the 1955 defeats, lobbying by pro-highway

advocates increased and for unknown reasons few anti-highway lobbyists were active. With a financing solution that Congress believed to be sustainable and the majority of lobbying voices now in support of the bill, the 1956 Federal-Aid Highway Act was officially passed in June of 1956 with a margin of 388-19 in the House and a voice vote in the Senate [2]. The passing of this act was only made possible through the passing of a parallel act – the Highway Revenue Act of 1956. This act ensured that all money raised through federal gas and rubber taxes would be deposited into the Highway Trust Fund (HTF). The HTF would serve as the account for all transportation expenditures henceforward.

CHAPTER 5

DECLINING QUALITY AND A CHANGING U.S. LANDSCAPE

Since the conception of the U.S. Interstate Highway System, estimating the costs of construction and maintenance of transportation infrastructure has been a struggle. Just 5 years after passing the 1956 Highway Act, Congress realized that the original estimates of construction costs were more than $12 billion short of the necessary funding level and had to increase the amount from $25 billion to $37.6 billion (not accounting for inflation). This funding increase would be coupled with a gas tax increase from 3 cents to 4 cents [2]. The system was expanded from the original 41,000 miles to 42,500 miles through the Federal-Aid Highway Act of 1968. The decades to follow would mark a period of massive highway construction and an overgrowing HTF. This expansion and growth would continue until the year of 1992 when the U.S. Interstate System was deemed complete. Original estimates for the system suggested less than $25 billion in costs and 13 years to construct. In reality, the system cost $128 billion and took 36 years [14]. The increased time and costs can be attributed to the rise of environmental, the urban highway revolt from growing public opposition of more highways, and increasing construction costs from both regulations and inflation.

Shifting Beyond Highway Construction

Though constructing the highway system is often the focus of attention, a major and critical shift came in the 1980s that continues to today. As thousands of miles were completed and utilized by the millions of American enjoying a newfound ability to drive on limited-access high-speed freeways, the Federal Highway Administration began to

focus on the maintenance of the system. The heavy use of highways brought rapid deterioration to the assets and the FHWA was required to develop policies and plans to preserve the nation's large investment. Since the cost of maintenance was not accurately quantified from the start of the system, there has long been a limited amount of funds available to repair an overwhelming amount of deteriorating assets.

Further amplifying the funding shortfall faced by the U.S. Department of Transportation is the revenue structure for collecting funds. The same mechanism has been used for highway funding since the start of the 1956 highway program. The use of earmarked gas tax funds was an innovative and viable solution when it was decided upon in the 1950s, but is no longer fitting as forms of transportation evolve. The use of a gas tax has become a less efficient means of collecting transportation revenue with the emergence of other forms of transportation that also utilize tax revenues – mass transit, pedestrian infrastructure, and bicycle infrastructure. Spending gas tax dollars collected from vehicles on mass transit has been a long debated issue since the creation of a Mass Transit account April 1, 1983 [15]. The HTF was a funding source created to finance the construction of a defined system; yet we have continued to use this source long beyond its defined life and even diverted many of the funds to cover items that were outside of the original scope. The time has come to re-evaluate this practice to ensure financial stability for the future of the Nation's infrastructure system.

The Gas Tax Problem

When the HTF was created in 1956 the gas tax was three cents per gallon. This gas tax has increased five times since then to its current level set in 1993 of 18.4 cents per gallon [14]. These increases were enacted for the purpose of covering increased costs

related to the system and the expansion of the HTF to include mass transit projects. However, since 1993 the gas tax has stayed at the same amount since the amount set at that time was at an absolute amount and did not take into account inflation over time. In more recent years, specifically since the onset of the recession in 2007, vehicle travel has leveled off and even seen a period of reduced travel. More fuel-efficient cars combined with less travel have resulted in less gas purchases and consequently less revenue for the HTF despite increased funding demands by state DOTs. This outlook becomes even less promising as electric and hybrid cars gain greater market share and appear to be a fixture for the future. There has been a lack of political willpower to increase the gas tax to account for these issues or transition our nation to a more stable vehicle miles traveled (VMT) charge system that charges users by the mile instead of the gallon. This tax-collection issue is a fundamental problem that will continue to accelerate the HTF's trajectory towards insolvency. Federal expenditures on highways since 1956 can be seen in Figure 2. There is an apparent trend of increasing expenditures each year on highways due in part to inflation and increased costs to construct projects. Though solving the gas tax issue is outside of the scope of this project, it is important to understand for context because it is an important consideration when looking at an NIB.

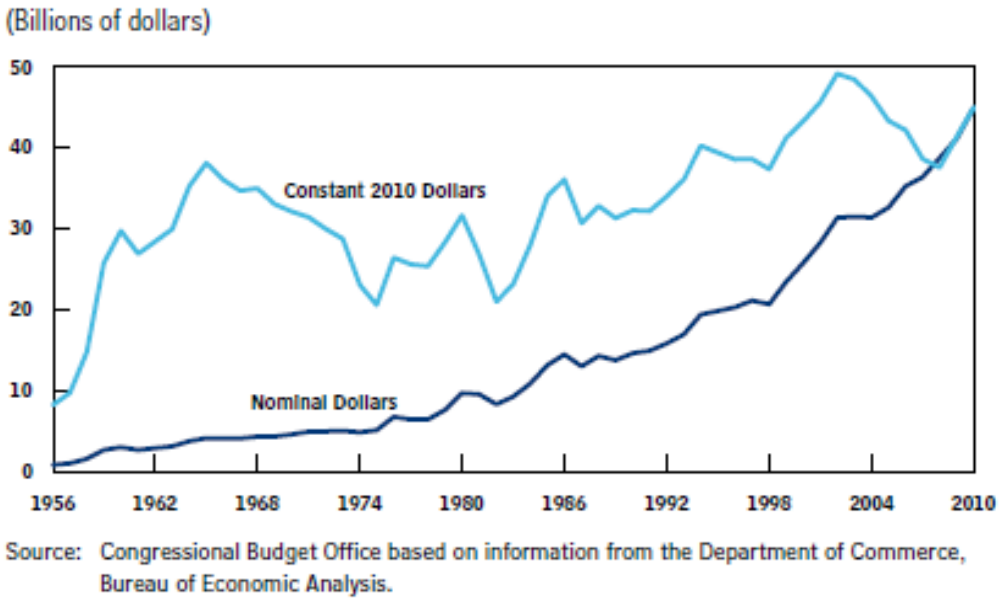
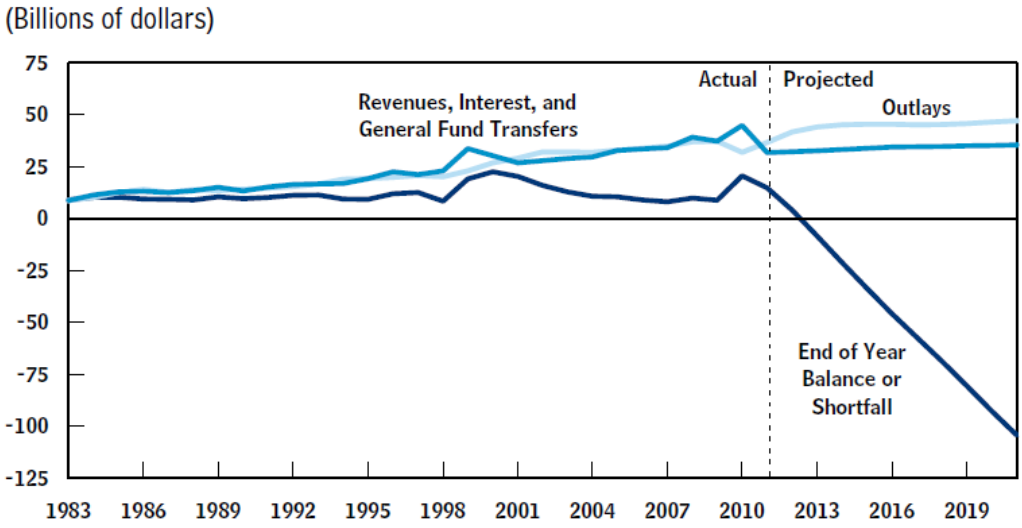


Figure 2 – Total federal funding for highways from 1956-2010 [16]

Figure 3 below, shows a plot from a report developed by the Congressional Budget Office that shows the expected trajectory of the HTF as of 2011. The figure shows a clear trajectory toward insolvency by 2013. Even more pressing is that the report projects that outlays each year after 2012 will exceed revenues. In the most recent transportation act signed summer 2012, annual transportation appropriations for transportation were around $50 million per year while the expected gas tax yields were about $36 million [17]. The gap of HTF revenue and transportation appropriations must be covered by the general fund. In 2013 and 2014, $21.2 million will be transferred from the General Fund and the Leaking Underground Storage Tank Fund to cover the identified gap. The practice of using funds from other accounts to fund transportation is not sustainable and quite worrisome in the current fiscal environment.



Source: Congressional Budget Office.

Note: Under current law, the Highway Trust Fund cannot incur negative balances. The negative balances shown above illustrate the projected inability of the fund to pay obligations as they are incurred by the states. If the Highway Trust Fund was unable to meet its obligations in a timely manner, spending on programs financed by the fund could continue more slowly, to keep pace with tax collections. The Department of Transportation has stated that if the fund faced a shortfall, it would ration the amounts it reimburses to states in order to maintain a positive balance in the fund.

Figure 3 - Highway account balance of the Highway Trust Fund from 1983-2019 [16]

Recent Federal Transportation Legislation

A brief look at the past three transportation appropriation bills paints a clear picture of how the current political environment has impacted the transportation sector. Transportation Equity Act for the 21st Century (TEA-21) was passed in 1998 providing $209 billion for transportation funding until the year 2003. A new transportation bill was not passed into law until 2005 – Safe, Accountable, Flexible, Efficient Transportation Equity Act – A legacy for Users (SAFETEA-LU). For two years, Congress was required to extend TEA-21 until SAFETEA-LU was passed. SAFETEA-LU provided $286 billion for transportation from 2005-2009 [18]. However, SAFETEA-LU had to be extended nine times over a three-year period until the creation of Moving Ahead for Progress in the 21st Century (MAP-21) in 2012. MAP-21 is the current transportation law but was written

only for the years 2013 and 2014 and required $19 billion to be transferred from the General Fund to help cover the $105 billion legislation [19]. The need for extensions and the current transportation bill that is only two years long has a substantial impact on the transportation policy environment. New transportation legislation contains new regulations and provides its own direction for the country's transportation system. During extension periods and when short-term bills are enacted, agencies face uncertainty because worries about what the next legislation will contain, when it will be passed, and how short-term changes will impact their projects. This uncertainty makes major infrastructure projects more risky and discourages agencies from planning projects that may fit future funding criteria.

CHAPTER 6

THE CONCEPT OF A NATIONAL INFRASTRUCTURE BANK

Congress' inability to consistently and punctually pass progressive transportation funding legislation comes at a time of increasing pressure from global competitors, accelerating infrastructure asset deterioration, and a growing need for economic engines to improve the U.S. economy. Further complicating the matter is the fact that the HTF is no longer solvent to fund the nation's infrastructure. Each of these concerns can be directly addressed through increased investment in infrastructure and an ability to more effectively disburse infrastructure investments. That is why new devices, such as a National Infrastructure Bank (NIB), are needed and can have a substantial impact on bringing economic growth to the United States during this period of economic recession. The purpose of this section is not to define exactly how an NIB would be structured or funded, but rather to provide a better understanding of the concept, review recent policy that has been proposed, and display the importance of this mechanism in the current economic environment.

An NIB is a government entity that provides loans or loan guarantees for major infrastructure projects. Different from typical banks, an NIB does not allow for deposits from the private sector and receives all capital from annual appropriations by the federal government. The funds provided by the NIB are matched by private funding sources in order to finance an infrastructure project. Differing from Federal Highway Administration grants, NIB loans must be repaid. The interest rates on this repayment are typically lower than what can be found on the private market. Additionally, federal

financing for infrastructure projects often attract private investment since investors view a reduced risk because of government support. NIBs can provide funding for all types of infrastructure projects (road, transit, water, energy, ect.), but for the focus of this paper only funding provided to transportation infrastructure is relevant.

Recent Legislation

Since the start of the Obama administration three major pieces of legislation have come forth in support of the creation of an NIB: S. 652, S. 936, and H.R. 402. These bills, though different in structure and financing, focus on the same objective of trying to develop an entity that can make infrastructure decisions optimized for return-on-investment. A brief overview of the differences between each of the pieces of legislation that have been put forth is shown in Figure 4. To provide an idea of the capital that these bills hope to generate, H.R. 402 proposed an initial endowment of $10 billion in the first year that could be built upon to provide up to $160 billion in the first decade in public funding matched with between $320 billion and $640 billion in private sector investment [20]. In all of the scenarios the entity is government supported but differences lie in the location within the government, the loaning capabilities, and the funding required starting the bank.

	S. 652	S. 936	H.R. 402
Name	American Infrastructure Financing Authority	American Infrastructure Investment Fund	National Infrastructure Development Bank
Type	"wholly owned Government corporation"[a]	"fund"	"wholly owned Government corporation"[b]
Institutional Location	unclear[c]	DOT	unclear[d]
Presidential appointees	All seven board members and CEO; President designates board chairperson	Executive director;[e] all of the five to seven Fund Advisory Committee members	All five board members; President designates board chairperson and vice-chairperson
Funding	$10 billion appropriation; fees; sale of loans	$10 billion appropriation	$25 billion appropriation; callable capital; may issue bonds

Source: S. 652/S. 1549, S. 936, and H.R. 402, 112th Congress.

a. S. 652 exempts AIFA from the Government Corporation Control Act (31 U.S.C. 9101-9110).

b. H.R. 402 would make NIBD subject to the Government Corporation Control Act (31 U.S.C. 9101-9110).

c. The Treasury inspector general would be the AIFA inspector general for five years, then AIFA would have its own IG. Otherwise, AIFA would not appear to be associated with any federal department or agency.

d. The Treasury Secretary would have some authorities over the NIDB, such as the power to audit the bank. Otherwise, the institutional location is not clear.

e. Three of the seven BOD members would be the Secretaries of Commerce, Energy, and Treasury. The remaining four BOD members would be DOT employees appointed by the DOT Secretary.

Figure 4 – Information about Congress's proposed infrastructure bank bills [21]

In each of the three proposals mentioned above, there are similar strengths that an NIB would enable. The first is the ability to leverage public funds to increase investment in infrastructure. Funding mechanisms for transportation finance are not adequate at the federal level and the use of loans through an NIB would attract more capital from the private sector to help overcome the infrastructure funding shortfall. The second strength is that the creation of an NIB would allow for the strategic investment of funds to projects with the greatest ROI. It is important to realize that ROI in this context refers to the return of not just capital but also social good. With limited funds and overwhelming demand, it is imperative that the disbursement of funds through an NIB be more targeted than the process used by the USDOT formula grant program. Third, funding through NIB would

fill a structural funding void for long-term projects that is not filled by the short-term transportation appropriation bills. MAP-21, the last transportation appropriation bill was a two-year bill with no earmarks for major projects. Without earmarks for funding, long-term projects cannot rely on being financed through the shorter-term appropriation process. The consistency and continuity brought by a long-term NIB funding structure would bring more confidence to mega-projects in the transportation sector. Finally, funding disbursed through NIBs would be able to introduce more requirements for asset and performance management than existing DOT grants. Since the money is attached to long-term contracts the asset owners could be required to hold the asset to a higher standard during the loan re-payment period and employ better performance management strategies. These requirements are the direction of future for USDOT funding but they have met roadblocks due to the structure of grant funding.

The NIB Debate

Those who disagree with the proposals for an NIB have concerns with the upfront costs, overlap with other federal programs, and the number of projects that would fit the NIB funding criteria. Estimates for the administrative costs related to establishing an NIB have been estimated to range from $100-$240 million [22]. Opponents to the creation of NIB argue that these costs are too high to create an entity that would do very similar work to the Transportation Infrastructure Finance and Innovation Act (TIFIA) that provides loans to the same type of transportation infrastructure projects. However, by simply analyzing the TIFIA program in recent years one can find reasons to reject this argument. Though TIFIA covers a common ground in financing projects that would typically apply for NIB funding, it is a subset of highway appropriation bills and sets its

funding amounts based on transportation bills that are passed by Congress. In 2012, TIFIA was allocated $122 million in funding for transportation infrastructure loans. This amount was dwarfed by the $13 billion requested by agencies for the 2012 application round. In response to the growing popularity of the program, MAP-21 increased this amount to $750 million for 2013 and $1 billion for 2014 [23]. The huge demand for TIFIA loans shows that there is a funding void that could be filled by an NIB and the size of the TIFIA program is too small to expand to the scale needed. Though the upfront costs seem quite large for an NIB, they are miniscule in comparison with the private sector funding that would be generated for transportation infrastructure through full utilization of NIB funding.

An NIB can be a solid step in improving the nation's infrastructure woes but it is only one piece of the puzzle. In all proposals that have been put forth, an NIB is a means of increasing infrastructure investment but not a full solution. The amount that will be provided through NIB loans is a small subset of the multi-trillion dollar infrastructure investment shortfall the U.S. faces. At the core of the problem is the tax collection mechanism used to fund transportation infrastructure construction, upkeep, and expansion. The creation of an NIB can be a means to provide additional funding in the short term as more permanent funding solutions are developed. Once permanent solutions are in place an NIB can continue to serve as a catalyst for creating public-private funding partnerships in transportation. Finally, the ability to utilize the NIB as an investment mechanism that can fund projects outside of the scope of current transportation funding sources is an important strength. An NIB has the ability to fund multi-modal projects that may be more difficult to construct under the more siloed structure that currently exists.

Projects that bring together mass transit, roads, and pedestrian infrastructure can be viewed as a single entity to be funded and not split across a variety of funding silos within the DOT.

CHAPTER 7

CASE EXAMPLES OF SUCESSFUL INFRASTRUCTURE BANKS

Support for the creation of an NIB is grounded in more than theoretical hopefulness or political jargon. A number of entities, both local and international, reflect the success that could be obtained through an NIB. Although no NIB currently exists, 32 domestic state infrastructure banks (SIB), a European Investment Bank, and the TIFIA program through the USDOT are in operation. These programs are strong examples of the positive impact an infrastructure bank could create. This section will look at examples of each of these entities to shed light on the success of existing infrastructure investment mechanisms that are providing loans, loan guarantees, and credit assistance to infrastructure projects and infrastructure owners.

State Infrastructure Banks

The 1995 National Highway System (NHS) Designation Act piloted the creation of the first SIBs in the United States. A pilot program allowed states to use a portion of their federal transportation allocation as "seed money" for the initial capitalization of an SIB. This "seed money" was then matched in a separate account with additional funds from state budgets to further grow the SIB capital amount. Ten states participated in the initial pilot group through this legislation: Arizona, Florida, Ohio, Oklahoma, Oregon, South Carolina, Texas, and Virginia. Two additional states, California and Missouri, became part of the pilot group and by the beginning of 1997 12 SIBs had been created. The objective of the SIB portion of the 1995 Act was to allow states to create a "revolving fund" that could be used for providing sustained and reliable financial

assistance to projects within their jurisdiction. The term "revolving fund" is often used when referring to the funding structure of SIBs. SIBs typically provide financial assistance to infrastructure projects in the form of loans or credit assistance. Funds provided by the SIB are then paid back to the institution according to the regulations and rates outlined in the initial agreement. Once the money has been paid back to the bank it has "revolved" and can be disbursed again to fund another project.

After the 12 pilot programs, funding for SIBs grew in 1997 with a $150 million federal appropriation for the expansion of existing, and the creation of new, SIBs. This appropriation expanded the number of SIBs to 23 and even spurred the creation of two multistate SIBs – Nebraska-North Dakota-South Dakota-Wyoming and Arkansas-Tennessee. The 1998 Transportation Equity Act for the 21st Century (TEA-21) provided even more funding for SIBs while instituting requirements on the federal funds disbursed through SIBs. After 1998, only a handful of additional SIBs were created. One reason for this could have been changes to the SIB program under TEA-21. TEA-21 required that all SIBs that received federal capitalization consider all projects that received funding subject to federal funding requirements. This meant that all projects of all sizes would have to conform to these requirements even if not applicable if provided funding through other sources. Furthermore, this requirement was made in perpetuity. All projects funded by the SIB would be subject to these requirements even after the federal dollars that were used for the initial capitalization had circulated and were no longer directly deposited by the federal government [24]. This was a major concern because of the long-term future implications for any SIB capitalized during this period. The 2005 Safe Accountable, Flexible, Efficient transportation Equity Act: A Legacy for Users (SAFETEA-LU) Act

also included provisions to allow all states to create SIBs but kept intact the requirements on projects using revolved federal dollars – resulting in no new banks being created. Through the original pilot and early adopters of the program, 32 states and Puerto Rico have created some type of revolving fund for transportation infrastructure, shown in Figure 5 [25].

State	Water/ Wastewater Fund	Clean Energy Fund	Transportation SIB (federal)	Other transportation SRF
Alabama	■			
Alaska	■	■	■	
Arizona	■		■*	
Arkansas	■		■*	
California	■	■	■*	■
Colorado	■		■	
Connecticut	■	■		
Delaware	■	■	■*	
District of Columbia	■	■		
Florida	■			■
Georgia	■			■
Hawaii	■	■		
Idaho	■			
Illinois	■			■
Indiana	■		■*	
Iowa	■		■*	
Kansas	■			■
Kentucky	■			
Louisiana	■			
Maine	■	■	■	
Maryland	■	■		
Massachusetts	■	■		
Michigan	■	■	■	
Minnesota	■	■	■	
Mississippi	■			
Missouri	■		■	■

State	Water/ Wastewater Fund	Clean Energy Fund	Transportation SIB (federal)	Other transportation SRF
Montana	■	■		
Nebraska	■		■	
Nevada	■			
New Hampshire	■	■		
New Jersey	■	■		
New Mexico	■		■	
New York	■	■	■*	■
North Carolina	■		■	
North Dakota	■		■	
Ohio	■	■	■	■
Oklahoma	■		■*	
Oregon	■	■	■	
Pennsylvania	■	■	■	■
Rhode Island	■	■	■*	
South Carolina	■		■	
South Dakota	■		■	
Tennessee	■		■*	
Texas	■		■	
Utah	■		■	
Vermont	■	■	■	
Virginia	■		■	■
Washington	■		■	■
West Virginia	■			
Wisconsin	■	■	■	
Wyoming	■		■	

Note: SIBs marked with an asterisk are currently inactive. Illinois' "other" SRF is the municipal-level Chicago Infrastructure Trust.

Figure 5 – State infrastructure banks across the United States [24]

The effectiveness and utilization of state infrastructure banks varies greatly from one to the next. Some states readily utilize their revolving fund to provide financing for projects while others have found that the scope of projects that can use the funding is too limited. Overall, projects supported by SIBs received $7.3 billion in financial assistance from 1995-2012. Though this amount is dwarfed by the $1.4 trillion that states have spent on transportation projects over the time frame, it is a sizable amount that can be built

upon. Though a number of banks exist, only a handful are active and continue to leverage their SIB as a creative funding alternative. SIB loan disbursements are highly concentrated in five states that account for 75 percent of the total loan disbursements – South Carolina, Florida, Arizona, Texas, and California. Furthermore, another five states have only entered one loan agreement since the creation of their SIB – Alaska, Arkansas, Rhode Island, Tennessee, and Utah [24]. The variation in states utilizing this funding mechanism is likely because many states created their SIBs around 1995 as an opportunity to gain more federal grant money through matching it with state funds. Once the account was set up there was less effort put forth to utilize the funds, especially in the years leading up to the recent recession. During this period public agencies and the private sector were often able to secure bond financing that was competitive with the treasury rate. Some states were able to maneuver this competitive environment and find a niche for their SIB, However, 10 of the original 32 states have SIBs that are no longer active [24].

Among the SIBs that are active, there are three distinct types – (1) conventional SIBs, (2) state-capitalized SIBs, and (3) infrastructure investment funds. Conventional SIBs utilize the revolving fund structure that is capitalized by both federal and matching state funds. This type of bank is the most common and is present in some states in parallel with the other two types. The second type of SIB is a state-capitalized transportation revolving fund. This type of fund functions almost identical to the conventional SIB but is totally state funded – meaning there are no federal funds in the account. These accounts tend to be smaller in size but provide the state with greater flexibility when disbursing funds since they do not have to conform to federal funding

requirements. Finally, there are infrastructure investment funds. These funds can either be public or private entities but in both cases these types of funds look to finance public works projects and are not confined to strictly supporting transportation infrastructure. The various types of state revolving funds are shown below in Figure 6. State revolving funds can be used for any form of infrastructure and actually began as a means to fund water infrastructure projects.

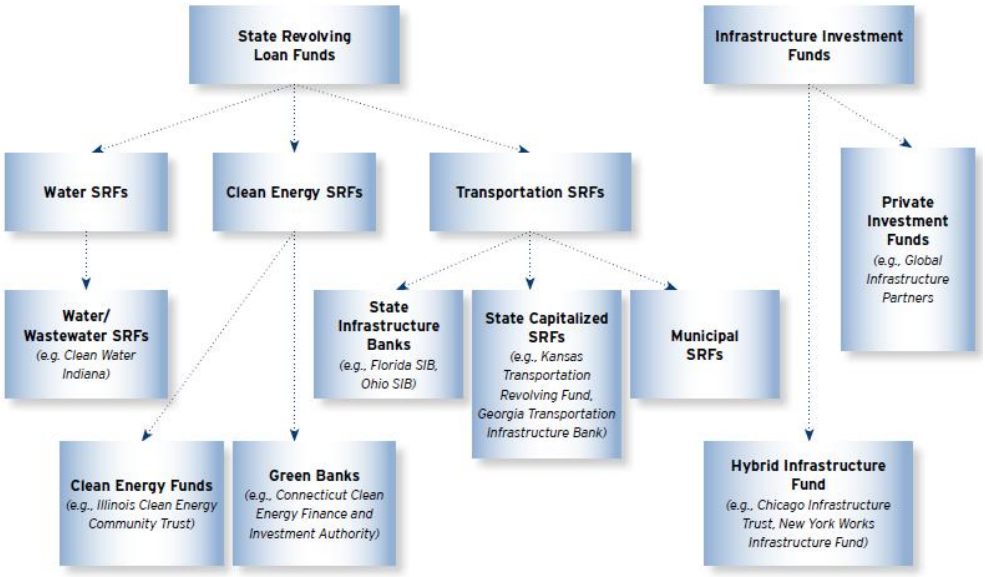


Figure 6 – Structure of different state infrastructure bank types [24]

South Carolina's Conventional State Infrastructure Bank

South Carolina has one of the oldest SIBs in the country and is the best example of a state that has found ways to utilize this funding source. South Carolina's SIB has provided nearly $2.8 billion in financial assistance over the 18 years it has been operating. This amount totals to almost 40 percent of all SIB loans nationwide. In order to allow the initial capitalization to stretch further, the bank leveraged its capitalization on the bond market to increase the loanable amount. In order to make bond payments the

state dedicates $120 million per year from registration fees and state gas tax revenues. Money from the South Carolina SIB provides both grants and loans to projects; giving preference to projects with sizable local matches. Funding from the SC SIB is reserved for highway and bridge projects that exceed $100 million and transit projects of any size. However, all projects have been highways and bridges. A seven-person board of directors consisting of state DOT personnel, state government leaders, and Governor appointed individuals governs the South Carolina SIB. The board reviews project applications and is guided by the mission, "To focus greater attention on larger transportation projects, and thereby allow SCDOT to devote resources to other important transportation projects" [26]. The success garnered by South Carolina has become a model for many states around the nation and is often referenced in Congress when discussing an NIB.

Florida's State-Capitalized State Infrastructure Bank

Six states have a state-capitalized fund operating in parallel with a conventional SIB and two states have a single SIB that is solely state funded. Florida is the best example of a state with two distinct accounts for their SIB. The first account is the conventional SIB that was set up during the first pilots but has not been recapitalized since 2004. The second account is solely state funded and capitalized by general revenue bond proceeds and state funds [25]. According to Florida officials, "SIB participation from the state-funded account is limited to a transportation facility project that is on the State Highway System or that provides for increased mobility on the state's transportation system in accordance with Section 339.55, Florida Statutes or provides for intermodal connectivity with airports, seaports, rail facilities, transportation terminals, and other intermodal options for increased accessibility and movement of people, cargo, and

freight" [27]. All assistance provided by this bank is in the form of loans; unlike South Carolina where grant money is sometimes granted.

The success of the Florida SIB is in part due to its ability to fit the context of the projects it funds. The bank has the flexibility to adapt its financing to fit the project's structure. Depending on risk and a number of criteria, the interest rate can be adjusted depending on the project and the repayment terms are tailored to the project with the ability to defer repayment for up to five years. This flexibility can be invaluable for projects that may need time to build their revenue stream [25]. The bank hopes to fund projects that have already received financing but need some extra help in reaching their total. This criterion allows the bank to further leverage the assistance it provides with private sector loans or federal grant money. Florida's SIB has provided almost $1.2 billion in loans to 76 projects around the state [24]. Furthermore, this $1.2 billion has been leveraged to over $8.4 billion in projects when combined with funding provided by other sources. According to Jessica Weeks the Florida SIB Project Manager, "We look at the (state infrastructure bank) as a major tool in our 'financial toolbox' with hopes of a viable program in good and bad economic times. During these tough economic times, the (state infrastructure bank) has still been able to provide loans at or below market rates and fund numerous transportation projects that have provided a safe transportation system ensuring the movement of people and goods" [25]. Each year, Florida receives more applications than they can fund showing the demand for this funding source.

Infrastructure Investment Funds

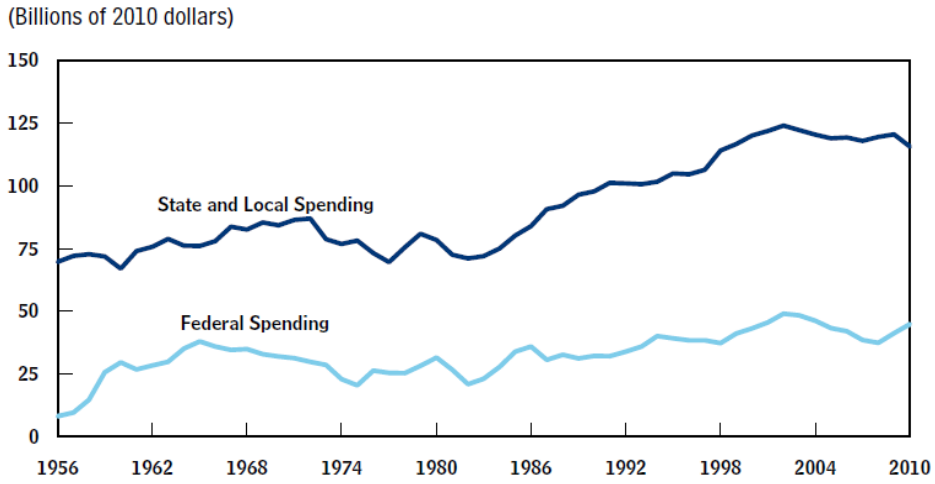
Recent examples of these public infrastructure funds have been highly sited in the media. Examples include the Chicago Infrastructure Trust and the proposed New York

Works Infrastructure Fund. Many of the private examples are international funds or domestic funds that are investing internationally in infrastructure. However, there is growing interest in domestic funds to invest directly into infrastructure projects outside of the bond market. Illinois is a state that never pursued the original SIB proposals so it has never had an entity of that type. In 2012, Mayor Rahm Emanuel passed a proposal through the city council that would allow for the creation of the Chicago Infrastructure Trust. This trust would serve as a public-private partnership to provide funds for public works projects that have typically been government funded while providing private investors a return on investment. Since the trust is in its infancy there have not been any major projects financed to date but there is great anticipation for what will come out of this partnership and other cities around the country are contemplating this same proposal. In early 2013, the trust took its first steps by publishing a request for qualifications for pension funds, banks, financial firms, and others that would be interested in financing up to $200 million in retrofitting the buildings of Chicago for energy efficiency [28]. Since this fund is quite novel and yet to be tested, it is too early to judge its effectiveness. Additionally, Chicago's and New York's multi-infrastructure funding approach makes them too broad for the scope of this discussion on NIBs for transportation funding.

SIB Implications for an NIB

The success and shortcomings of state infrastructure banks have clear implications on the argument for creating an NIB. Many argue that infrastructure can be handled at the state level and that the power to create entities like an infrastructure bank should be handled by states. This is a plausible argument that is supported by the large amount of money spent each year on transportation at the state level for state-specific

projects. As shown in Figure 7, transportation funding at the state level often amounts to two to three times what is spent at the federal level each year. Furthermore, there are some clear advantages of creating SIBs over a single NIB, the first being the ability to focus on the local level and make decisions that are optimized based on the local criteria and vision. This is undoubtedly a strength when viewed at a local or state scale and not the national scale. Many projects that may be strategic at the state or local level may not be within the scope of federal funding and may even be further complicated with the use of federal funding. However, if anything is to be learned from the success of South Carolina and the funding requirements of NIB legislation, most of the projects that fit the scope of this type of funding will exceed $100 million and likely be within the scope of federal funding.



Source: Congressional Budget Office based on information from the Census Bureau and the Bureau of Economic Analysis.

Note: State and local spending from 2008 through 2010 were estimated by updating prior-year spending for changes in the value of state and local highways.

Figure 7 – United States transportation expenditures at State and Federal levels [16]

From a financial standpoint SIBs have two major benefits: (1) the accounting requirements at the state level allow for revolving funds to be viewed based on their

balance and not a debt to the state, which is in contrast to what happens at the federal level and (2) states have the ability to further leverage their capitalization by bonding – an option not available for an NIB. The accounting requirements at the state level allow for most states to provide loans as long as the revolving account remains solvent. This is important because the risk and amount that the state government is able to subsidize projects does not have to show up on the state budget. However, at the federal level the circumstances are very different due to the Federal Credit Reform Act of 1990. This act requires that all of the subsidy cost over the life of the loan be included in the federal budget as a net present valuation at the time the loan is disbursed. Therefore, repayments of the loan are also part of the net present value of the loan and must go on the federal budget [29]. This provision inhibits the revolving of repayment funds that is enabled at the state level. The inclusion of risk and the net present valuation of the loan to include all subsidies at the time of disbursement inflates the NIB's impact on the federal budget even if it is an independently operating entity.

More tangibly, this provision requires an NIB with an appropriation of $25 billion to have an additional $225 billion in "callable capital" from the Treasury [21]. Restrictions like the 1990 Act and others make it infeasible to leverage the capitalization of the NIB to the level that states are permitted. States can leverage SIB funds through bonding, then further leverage the funds by providing partial loans to projects with the private sector covering the remainder. An NIB only has the potential to leverage funds through the partial financing of projects that will have private sector matching funds because of a number of restrictions that would make bonding the capitalization amount unlawful.

The disadvantages of SIBs as a means of increasing infrastructure investment are quite clear. The most obvious reason being that all states are currently able to utilize SIBs for transportation infrastructure funding and very few have been successful in leveraging this ability. With 75 percent of all SIB loans being concentrated in only 5 states and the total loan amount only accounting for 0.5 percent of all state transportation investments, it is clear that SIBs in their current form will not profoundly increase the amount invested in infrastructure [24]. Though centers of excellence have been found in a handful of states, the adoption of this funding source is not growing at the pace that is needed. Even if SIBs were growing fast enough to fill the present funding void, there are two structural shortfalls of developing banks at the state level. The patterns of economic growth and travel are continually moving toward megaregions. As economies become more tied to their region the boundaries of transportation investments will expand beyond states and require strategic invests to be made in infrastructure from a regional/national perspective. One could argue that multi-state infrastructure banks could be the solution to this but in the two multi-state banks that have been e formed they were unable to provide a single loan due to misaligned priorities [29]. States most often will not make decisions from a multi-state perspective – that is the job of the federal government. Thus, transportation investment decisions that are multi-state in nature should arguably be made at the appropriate level of government. This has historically been the case with the Interstate Highway System and sectors outside of transportation because it fits the structure of the Nation's government system. Building upon this point, an NIB allows for targeted investment decisions to optimize the limited funds of the bank for the best strategy for the Nation. Instead of making piecemeal decisions at just the state level, an NIB allows for a

comprehensive and system-level decision to be made each year on the investment of funds in transportation. There is no reason that the two types of banks must be mutually exclusive. The transportation investment needs of the United States are large and utilizing the abilities of SIBs along with an NIB will provide more capital that can be leveraged with private sector funding.

The European Investment Bank

The European Investment Bank (EIB) is the most prominent example of an infrastructure bank in the world. The EIB, created under terms of the 1957 Treaty of Rome, is capitalized by the 27 member countries of the European Union (EU) [21]. The original purpose of the EIB was to fund infrastructure projects that the European governments and private sector would not fund. This purpose has shifted since the 1950s with the emergence of more funding sources for public and private projects, but the EIB continues to be the premier lending sources for major infrastructure projects [30]. The EIB provides longer term, low-interest loans, loan guarantees, and technical support to major infrastructure projects across Europe and in some cases around the globe. The projects funded by the EIB align with the objectives of the EU and are not confined to any one sector of the infrastructure system – i.e. transportation, energy, water, universities, hospitals, etc. All funding provided by the EIB is repaid by the borrower and despite being a non-profit entity the bank earns a profit each year. In 2012, the EIB's profit was a record-high €2.7 billion ($3.5 billion) and all earnings were deposited back into the fund to increase the capitalization amount [31].

As a financially independent entity owned by the EU member nations, the EIB is able to raise funds through bonds that are sold to investors internationally. These bonds

allow for further capital to be raised and invested into infrastructure projects. Loans provided by the EIB finance no more than 50 percent of a project's overall infrastructure project costs. Though the total project cost is never covered, obtaining EIB funding tends to attract other investors and allow for the funding from the bank to be further leveraged with other funding sources [17]. Projects funded by the bank are agreed upon by the 28 member Board of Directors that represent the interests of all EU nations and an appointed Chairman. In addition to the Board of Trustees, the Board can include up to six experts in meetings with non-voting rights to serve in an advisory capacity. Funded projects must align with the overall vision and priorities set by the EU Commission, although priorities can include developmental interests outside of the EU. This allows for funds to be provided to nations outside the EU with ties to the union. In **Error! Reference source not found.**, the breakdown for funding by geographic location can be seen. Of the €61 billion provide for loans in 2011, €7 billion went to interests outside of the EU [32].

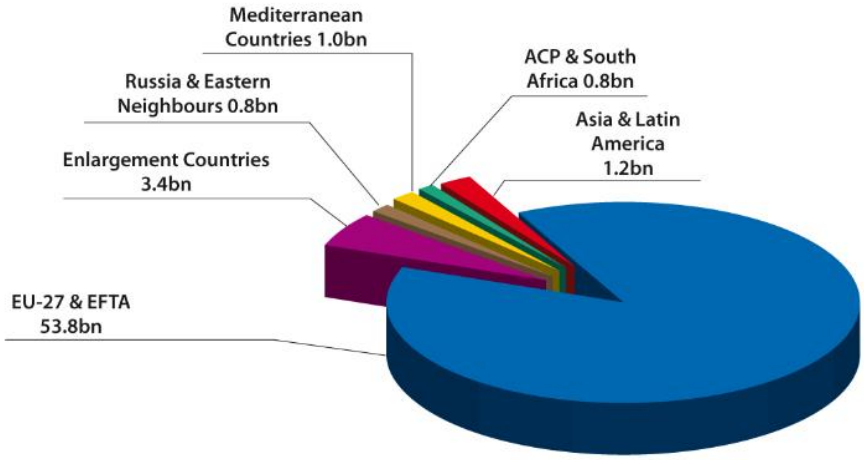


Figure 8 - Breakdown of EIB loans in 2011 by region [32]

The EIB's presence has left a positive and long-lasting impact on the development of the EU. Since its creation, the bank has provided €965 billion ($1.25 trillion) in loans

to infrastructure projects in the interests of the EU. Stability and consistency are two important characteristics the EIB has embodied [33]. Regardless of the economic climate and regulatory environment, the EIB has been able to provide loans to major projects and continue its mission of connecting the EU through infrastructure. Its strong performance and financial portfolio has earned the EIB Triple A ratings from Moody's, S&P, and Fitch [31]. The current focus of the EIB is small and medium enterprises (SMEs), regional development, and environmental sustainability. These focus areas are aimed at creating jobs, addressing the economic and social imbalances present across the EU member countries, and combating climate change. The focus areas are based on the overarching EU objectives and used to select priority areas when providing funding. The breakdown of loans by sector for loans provided by the EIB in 2011 can be seen in Figure 9. Shifting priorities by the EIB help dictate the distribution of funding by sector each year.

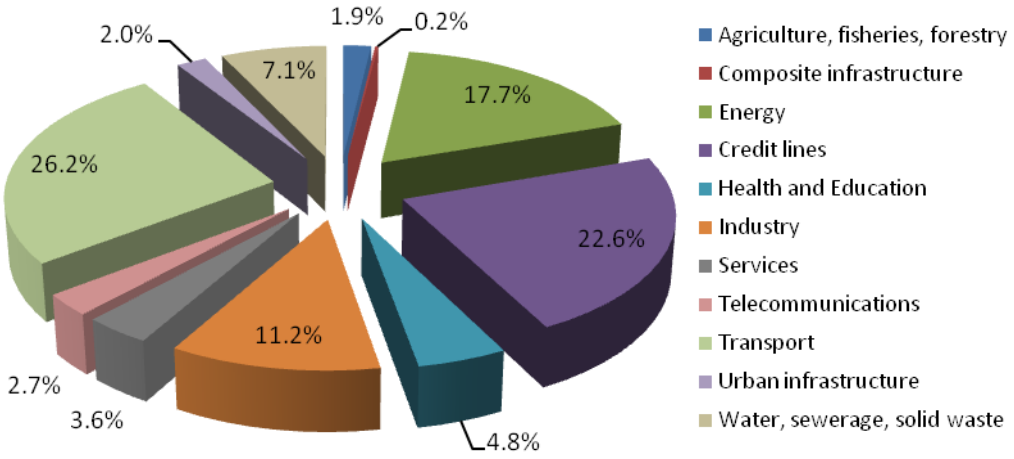


Figure 9 – Breakdown of EIB loans by infrastructure sector [34]

The clear success of the EIB and the positive outcomes of infrastructure investment for the region have prompted an aggressive growth strategy for the bank. The rate the EIB has expanded over the past two decades is impressive. In the early 1990s, the bank held a capital-base of less than €30 billion ($39 billion). This number rose to €232 billion by 2009. Recent political statements indicate even more growth in the NIB's immediate future [35]. During 2011, the bank provided approximately €61 billion ($79 billion) in infrastructure loans to 454 projects in 70 countries [36]. Werner Hoyer, President of the EIB, stated in a February 2013 press release, "Last year the EIB has delivered on changing its course fundamentally from a programmed cyclical to a countercyclical course. We are now prepared to deliver on boosting our lending activities by 40% per year from 2013-2015 and thus making an extraordinary effort in these exceptional times for Europe. The EU Bank will be making a significant and tangible contribution to overcoming the current crisis" [37]. Sustainable growth and employment are the focal point for growing the EIB's capital amount and providing more loans to European projects.

There are similarities and differences to the long-standing EIB compared to the recent proposals for an NIB. The EIB is a model for the NIB. The organizational structure of the EIB with a board of trustee panel that makes decisions is very similar to NIB proposals. The NIB proposals have scaled down to a smaller number of trustees – ranging from 5-7 as opposed to the EIB 28 member board [21], [36]. The EIB Board of Trustees makes loan decisions based on a number of factors, although the major priority is to select projects that align with the vision and objectives of the EU. An NIB Board of Trustees would follow very similar parameters when making decisions. A key strength of

the NIB would be to put forth a national direction for infrastructure growth that would guide the selection of projects. The ability to view the infrastructure network of the United States as a system and select projects that have the best return on investment for the entire system allows for the best use of limited funds.

Financially, the two banks have many similarities. The structure by which loans are provided and paid back is seemingly identical. Both banks have the same objective of leveraging their capital to provide the largest amount of investment into infrastructure possible. The EIB does this in two ways: selling bonds on the international market to the private sector to increase the bank's capital and by providing only a percentage of the total project costs in loans. The ability to sell bonds to increase capital has only been included in one of the three NIB proposals – H.R. 402 [21]. However, all bills for an NIB have included an upper loan percentage limit like the EIB. The EIB has set this limit at 50 percent of the total project budget; the same percentage number has been discussed for an NIB [35]. Finally, both banks require callable capital from the governments they are supported by in case of excessive loan defaults by funding recipients. Each of the member nations of the EU must ensure that funds are available based on a risk assessment of the loans provided. This structure is a larger factor in the United States due to the requirements of the Credit Reform Act of 1990. This act along with other government sanctions prevents an NIB from functioning as a "revolving fund." Furthermore, the total burden of the risk from bank loans falls on a single government with an NIB as opposed to 27 different nations with the EIB. Though the need for callable capital for backing is the same for both banks, it is clear that the legal, financial, and regulatory implications are quite different.

Many of the differences between the EIB and NIB are a result of the EIB being an independent entity. This independent structure allows for the bank to have its own credit rating and not fall under the umbrella of the government of any one nation. This is an advantage for the EIB since it can work as its own entity and build a record of sound finances regardless of the European economic climate. Transparency has been a concern of the public at times with the EIB. However, as an independent institution, the EIB is not as bound to constituents or public scrutiny to the same degree as the government. This structure has been important in the selection of projects and the distributions of funds across all EU nations.

The spectrum of projects that can be funded by the EIB is quite different from the NIB proposals. Minimum loan amounts for the two entities are different and the disparity points to the scope of the projects the banks hope to fund. The EIB funds projects of more than €25 million ($32.4 million), while the NIB proposals have set the lower boundary for funding at $100 million for urban projects and $50 million for rural [17], [38]. The EIB has set its funding scope to include smaller projects that may have an impact on the metropolitan level. In contrast, the NIB focuses on major projects that will have impacts at the regional or national scale. The NIB will focus on a smaller segment of the total infrastructure market ensuring that qualifying projects have widespread effects on the nation. Additionally, the EIB funds many sectors of the infrastructure industry. For the scope of this paper, all NIB proposals are being evaluated as entities solely focused on providing financing for the transportation sector. Again, this boundary makes the NIB more narrowly defined in scope than the EIB.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

The Transportation Infrastructure Financing Innovation Act (TIFIA) has the greatest resemblance to an NIB of any domestic program. TIFIA was passed by Congress in 1998 and reauthorized in the past two transportation bills in 2005 and 2012. The purpose of TIFIA was to provide a long-term loan funding source for state and local governments as well as close the funding gap on large transportation projects. Unlike the EIB, TIFIA only funds transportation infrastructure projects. Financial assistance from TIFIA comes in the forms of loans, loan guarantees, and direct credit. As of 2012, the TIFIA program had provided $10.5 billion in funding assistance to projects around the country. TIFIA funding has been leveraged with other funding sources to invest $42.2 billion in transportation projects [39].

TIFIA loans are given to qualifying state and local projects with repayment periods of up to 35 years. In order to qualify, projects must meet a number of criteria including: project costs over $50 million, a dedicated revenue source, and meet all federal laws. Eligible projects can receive loans up to 49 percent of the total project budget [40]. This amount has historically been 33 percent but was increased with the most recent transportation law, MAP-21. Interest rates on TIFIA loans are pegged to the Treasury rate on the date that the loan is given. The highly competitive interest rate makes TIFIA funding attractive to agencies. Moreover, projects with TIFIA financing more easily raise funds from private sector sources. Since TIFIA is focused on infrastructure construction and not profit, the repayment terms on loans are more flexible than many other sources. In addition to the low interest rate, interest and principal payments can be deferred on revenue collecting projects for up to five years to allow time for a capital base to

accumulate. Of the 31 projects that have been funded by TIFIA, the first and only default in the history of the program came in 2011 with the San Diego South Bay Expressway [41]. Despite this single blemish, the program has a strong history of making sound financial investments on projects.

The success of the TIFIA program is a clear indicator of the demand for a funding source to provide loans toward transportation infrastructure projects. As mentioned in the preceding chapter, MAP-21 increased TIFIA from $122 million in 2012, to $750 million in 2013, and $1 billion in 2014. This increase is meant to address the demand on funds with over $13 billion in applications for 2012 [23]. However, the program has also implemented some more questionable changes. The first, mentioned above, is the increase on the loan amount from 33 percent of the project cost to 49 percent [40]. This change will likely increase the application pool, but means that fewer projects will be funded overall. Furthermore, this change decreases the DOT's ability to leverage federal dollars with private sector funding. With the major funding shortfall the nation faces, putting more of the already constrained federal funding available into fewer projects will not help close the funding gap. Another questionable change is that projects will now be funded on a first come first serve basis. Though projects must still meet all funding criteria, there will no longer be an analysis across all applications to select the projects that will be the highest impact and return on investment. This change removes the DOT's ability to make funding decisions that are in the interest of a unified and defined national vision or objective for infrastructure construction.

Financially there are very significant differences between TIFIA and an NIB. Ideally, an NIB would be capitalized through apportionments from the general fund.

These apportionments would be new capital invested into infrastructure at the government level –outside of the funds already invested through the Highway Trust Fund. An investment from the general fund to an NIB would show the priority being placed on the country's infrastructure and provide more funding to the sector. This is very different from TIFIA, which is funded through the HTF as part of each transportation law. Money going to TIFIA is paid out of the same pool of funds that all other transportation currently comes from. Simply increasing TIFIA's funding amount does not do anything to increase the amount invested in infrastructure at the federal level. Additionally, TIFIA has no revolving structure making it non-sustainable. Loan payments from TIFIA financing are not put back into a TIFIA account to provide future loans. Since TIFIA must be renewed with each transportation law it is subject to the volatility of politics. The past three transportation bills have been signed into law long after their original reauthorization dates. Being subject to this type of appropriation structure makes TIFIA a less reliable funding source than an NIB that would need upfront appropriations but could sustain itself after the initial investment. Major projects cannot risk an unreliable funding source and an NIB overcomes that barrier.

CHAPTER 8

PRESIDENTIAL LESSONS OF THE PAST APPLIED TO THE PRESENT

The creation of a National Infrastructure Bank will not be an easy task for the Obama administration. Currently, the political environment is very polarized and has proven to be a difficult environment to garner bi-partisan support for issues that have not been historically very politically charged. Infrastructure has long been an issue that can garner across-the-aisle support as it deals with building a foundation for the future of our nation. This was seen in summer 2012 with the passing of MAP-21 that was sponsored by Democratic Senator Barbra Boxer and co-sponsored by two Republican Congressmen during an election year. Building upon a foundation of bi-partisan support, the following four major lessons from the leadership of Presidents Roosevelt and Eisenhower can be applied to the present: (1) transportation should be viewed as an enabler of a larger objective, (2) the criticality of timing, (3) the importance of educating strategic stakeholders, and (4) compromise is essential.

A Means to Greater Ends

During Roosevelt and Eisenhower's presidencies there were two issues of paramount importance, defense and the economy. Both presidents connected the transportation legislation to these two concerns to build support. The National Interstate System was deemed the National Interstate and Defense System in 1941. Constructing highways was no longer a postal or logistical issue, like it had been in the past. Instead, the lack of a nationwide highway system was a safety and defense concern for the entire

country. This came at a time directly following World War II and the Korean War so the concerns of defense were fresh on the minds of the public and Congress. Eisenhower's used his experience of traveling the country via convoy in 1919 and seeing the German highway system during World War II to increase his credibility when making these statements. History shows that infrastructure presented as a means to an end rather than infrastructure for its own sake has been more effective in garnering the necessary support to pass federal legislation.

As the Great Depression lingered in the memories of most Americans, making highways an economic issue also helped support their case. Roosevelt saw highways as part of his New Deal and an economic engine for the country. Under his administration, millions additional dollars were allocated toward road funding than ever before. When resources were not present to build, he focused on investing in the planning of roads to create jobs and prepare for the future. Eisenhower framed this issue to Congress through the economic activity lost due to road incidents and congestion along with projecting the jobs and economic growth that would come from constructing the road network. Connecting infrastructure to defense and economy made it an issue that transcended moving people and goods from one location to another and allowed the cause to resound in the hearts of all Americans.

Infrastructure is an issue that is often discussed but is usually low priority. If an NIB is to be created it will undoubtedly take connecting infrastructure to a national concern or aspiration that is a higher priority. Similar to during Roosevelt's presidency, the U.S. is in a period of slow job growth and recovery from a major economic crisis. Economic growth and jobs are undoubtedly two concerns of the American people and

Congress. Realizing and communicating the economic growth in the short and long-term in a way that people can relate to will be paramount in elevating the priority of an NIB. Conveying the over $200 billion lost to congestion each year that can be alleviated by infrastructure investment is important. It will be equally important to convey this in terms that the average citizen, business, and various other stakeholders can directly relate to – such as the average amount of money wasted on gas each year by family or business due to congestion. In 1976, 1 of 6 jobs in the nation was connected to the transportation sector and every dollar spent on transportation yielded $2.90 in public benefit [6]. Though the economic opportunities from transportation investment may not be as large as they once were, it is estimated that for every $1 billion invested in infrastructure 29,000 jobs are created [22]. Communicating statistics of this nature will aid in the garnering of public support.

With the changes in defense strategy and military combat since the 1950s, connecting transportation infrastructure policy to defense does not have the same practical relevance that it once did. However, there is a growing issue of national safety from natural disasters that is at the forefront of the American public and Congress. The impact and loss of lives from natural disasters like hurricanes Katrina and Sandy have been a sobering reminder of the dilapidated infrastructure in the United States and present a teaching moment that can be capitalized upon. The nation's evacuation routes for natural disasters have failed to stand the test and the damage created by these weather conditions have demolished weakened transportation assets that were already long overdue for repairs. Connecting legislation for transportation infrastructure funding through an NIB to the recent natural disasters could generate more public support than

narrowly focusing on the infrastructure issue as an end in itself. Realizing and communicating that these natural disasters will continue to occur, and perhaps even grow in magnitude, can be another tool to elevate the priority of infrastructure. President Obama took a strong stance on climate change in his inaugural address stating, "We will respond to the threat of climate change, knowing that the failure to do so would betray our children and future generations. Some may still deny the overwhelming judgment of science, but none can avoid the devastating impact of raging fires, and crippling drought, and more powerful storms. The path towards sustainable energy sources will be long and sometimes difficult [42]." While climate change continues to be a controversial issue in Congress, it will be important to address the importance of infrastructure investment to combat natural disasters from an approach that does not sidetrack the conversation to a debate about climate change.

The financial evidence supporting investment in infrastructure to mitigate future natural disasters leads to a clear conclusion. A study conducted by the Multihazard Mitigation Council (MMC), part of the National Institute of Building Sciences, found that every "dollar spent on mitigation saves society an average of $4" [43]. These savings are relevant for flood, hurricanes, tornados, and earthquake natural disasters. Savings come in the form of reduced direct property damage, less direct and indirect business interruption, reduced human losses, and decreased costs for emergency response. The MMC study found that of the $3.5 billion that had been invested by FEMA to mitigate natural disasters had yielded a discounted present value of $14 billion that would been required if not invested prior to natural disasters [43]. These numbers are extremely important to keep in mind in the wake of Hurricanes Sandy, Katrina, and the many more

natural disasters that have hit the nation over the past decade. Damages from Hurricane Sandy have been estimated to have exceeded $71.3 billion. The Metro Transit Authority in New York estimated that Hurricane Sandy caused $4.75 billion in damages to its transit assets alone [44]. Furthermore, the economic losses of Hurricane Sandy were estimated to be $62 billion. This amount ranks it second only after Hurricane Katrina, which caused $128 billion in economic losses [45]. Retroactively repairing struggling infrastructure it has been hit by natural disasters is far more costly to the economy and the government, which must intervene through FEMA to make repairs, than taking a proactive approach. NIB proposals should emphasis the long-term federal savings from creating a NIB that can target venerable infrastructure prior to natural disasters.

Timing is Key

The next lesson is timing. Eisenhower took office as the Korean War came to an end and immediately passed the Federal-Aid Highway Act of 1954. This act was a necessary first step to bide time for passing the more controversial and robust 1956 bill. The timing utilized by both of these presidents directly aligns with what the United States is currently seeing. The United States is bringing a close to almost a decade long period of war and focus on expensive foreign policy. It is now time to focus and invest domestically to create jobs for those returning home from war and spur economic development more broadly across a struggling economy. Last year's MAP-21 was a short two-year transportation appropriation that will soon require a reauthorization and what many hope will be a more long-term solution. MAP-21 should serve as the current administration's Federal-Aid Highway Act of 1954, a two-year appropriation to buy time for a more comprehensive sustainable solution. The next two years constitute excellent

timing for the creation of an NIB if the past is to be used as a model for the present. The process of passing NIB legislation will be long and arduous so if the administration hopes to take advantage of this ideal timing the process must begin immediately.

Identify and Align Critical Stakeholders

The difference between the legislation put forth during Eisenhower's administration in 1955 and what was passed in 1956 was not totally in the content of the bills. Environmental factors greatly swayed the outcome of congressional votes. One of the biggest shifts seen between 1955 and 1956 was with the direction of lobbyists. In 1955, major lobbying organizations were against passing any legislation that would increase gas and rubber taxes. Organizations like AAA, tire companies, oil companies, and even some states' leadership were very vocal on Capitol Hill about the negative effects of financing roads through increased user-fees. However, in 1956 the proportion of lobbyists in favor of the passing legislation with user-fee financing was far greater than the opponents. It is not known exactly what brought fewer lobbyists against the issue in 1956, but the groups that were opposing the bill are the ones who have gained the most from highway construction.

Educating stakeholders likely played a role in shifting lobbyists from being strong opponents in 1955 to becoming neutral in 1956. The NIB issue has been fortunate to have bi-partisan support but that should not be a reason to ignore the importance of communicating and educating strategic stakeholders to ensure they are present and active in Washington supporting the legislation. Eisenhower recognized this in 1954 when he had VP Nixon address the Governor's to educate them early in the process and inform them on the positive outcomes for their states and constituents. Having the state

leadership supporting the highway system would allow the President more leverage with Congress. After gaining governor support, Eisenhower was able to build public support and ensure that there was pressure on Congress to follow through with legislation.

Compromise is Necessary

The final and essential lesson is compromise that will be critical in passing any legislation related to transportation in Congress. Compromise was a tool that President Eisenhower used to ensure that he did not delay the 1956 Act. The major issue in passing the Federal-Aid Highway Act of 1956 was undoubtedly financing. Eisenhower's stance, along with his Treasury Secretary, was that the roads should be self-liquidating through user-toll but few others in Congress agreed with this idea [14]. Instead of pushing his viewpoint on Congress, Eisenhower yielded to their leadership. Through the period leading up to 1956, Eisenhower constantly challenged Congress and others to develop solutions and ideas. This was seen in 1954 in the speech delivered by VP Nixon in place of Eisenhower and in his 1955 correspondences with Congress. In each scenario he pressed the importance of an Interstate Highway system and the advantages it could bring. Instead of asserting his unyielding position on solving the interstate issue, Eisenhower engaged his audience to become involved and develop a solution that they saw best fit. Eisenhower's approach developed more consensus and buy-in than more stern alternatives. In other words, he focused on the ends; he was flexible about the means.

The current climate between Congress and the office of the Presidency is very different than the environment in which Eisenhower maneuvered, but compromise and building buy-in are effective approaches ensuring legislative progress. The hyper-partisan

environment of the current Congress will require compromise from both parties and a willingness from leaders to communicate across the parties in order for a NIB solution to be reached. An important lesson that can be learned from Eisenhower's presidency and employed by the current administration is the "hidden-hand" approach. This term was coined by author Fred Greenstein to explain Eisenhower's approach to politics.

Eisenhower often worked behind the scenes with his staff and various congressmen to enable legislation had proper support. This approach allowed for more bi-partisan support by not allowing the politics of presidential interests and agendas to detract from the legislation. By working behind the scenes Eisenhower was often thought to be the "do-nothing" president. Though this may not have made him the most popular president in the eyes of the media and public at times, it allowed him to work with congress and pursue his agenda. President Obama has been very vocal in his support of the NIB. Though his support has helped raise the awareness of the proposal, it also polarizes an issue that has bi-partisan support. Following in the steps of Eisenhower, President Obama should allow a bi-partisan group of congressmen to lead the effort to pass NIB legislation. Though it is an important matter to the administration, removing the President from being the champion of the issue can help ease the hyper-partisan struggles the legislation faces in the current Congress. NIB legislation has a better opportunity to pass in Congress if it is viewed based on the merit of the proposal rather than a partisan solution for infrastructure. A compromise on an NIB is more likely to be seen through a bi-partisan approach that can be viewed as a victory for the country, not the presidential administration or a particular political party.

CHAPTER 9

CONCLUSIONS AND A PATH FORWARD

The United States' approach to financing, planning, and constructing transportation has evolved over time and at each step of the evolution there has been much debate among opposing viewpoints. Until 1956, the method of financing transportation infrastructure shifted between private and public sector with thoughts that funding should be provided through bonds, excessive condemnation, property tax, gas tax, and the general fund. Since 1956, the transportation financing mechanism has remained static, financed by a gas tax that has not increased in two decades. The depletion of the HTF and underinvestment in infrastructure has left the nation less competitive globally because of deteriorating infrastructure. Ending this trend will require political leaders to reevaluate the nation's transportation financing scheme and make changes to a system that has been virtually unchanged for over 50 years. The creation of an NIB is a change that can address a portion of the funding challenges the nation faces by attracting private sector investment to infrastructure, enabling a strategic ROI approach to rebuilding the nation's infrastructure and providing a loan mechanism that is in high demand for new mega infrastructure projects.

Applying lessons from the Roosevelt and Eisenhower administrations, the following recommendations can be used by the current administration to pass legislation to create an NIB:

- Infrastructure **investment should be conveyed as a means to a more robust end**. Connecting the importance of infrastructure investment to the critical issues

of economic growth/competiveness and natural disaster resilience can elevate its priority. It is essential to communicate the outcomes of these investments in terms that are relatable to the average American household.

- **Identify and educate the key political stakeholders** (through presidential speeches, letters, press releases, ect.) on how investing in infrastructure will help **alleviate the issues of greatest concern to them**. These issues may be different from one group to another (i.e. economy, public health, environment, and security) but will build political support.
- **Casting the vision and compromising** with Congress, the general public, and other stakeholders to come up with the best alternative to achieving this vision will obtain buy in and build more committed supporters.

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